CLAIMS

What is claimed is:

1.   A method in a distributed system for communicating in a network with a source node and a destination node, wherein the source node and the destination node have an address, the method comprising the steps of:

accessing the address of the destination node by the source node, wherein the source node and the destination node are programs;

sending a first packet by the source node to the destination node by using the accessed address;

receiving the first packet by the destination node;

updating the accessed address to reflect a new address of the destination node responsive to a change in the address of the destination node to the new address;

sending a second packet by the source node to the destination node by using the new address; and

receiving the second packet by the destination node.

2.   The method of claim 1, wherein the source node and the destination node have a local address cache, and wherein the receiving the first packet step includes the steps of:

storing, in the local cache of the destination node, the address of the sending node; and

wherein the updating step further includes the steps of:

retrieving from the local cache of the destination node the address of the sending node;

sending a third packet containing the new address of the destination node to the source node by the destination node using the address of the source node;

receiving the third packet by the source node; and

storing, in the local cache of the source node, the new address of the destination node.

3.   The method of claim 1, wherein the distributed system has a central address store, the method further comprising the steps of:

storing the address of the source node and the destination node in the central address store; and

wherein the sending a first packet step further includes the step of:

accessing the address of the destination node from the central address store; and

wherein the updating step further includes the steps of:

sending a third packet containing the new address of the destination node to the central address store by the destination node; and

storing the new address of the destination node in the central address store; and

accessing the new address by the source node.

4.   The method of claim 1, wherein the source node and the destination node

communicate with other nodes by using a multicast address such that a communication

sent to the multicast address is sent to the source node, the destination node, and the other

nodes, the source node and the other nodes having a local cache, wherein the updating

step further includes the steps of:

       sending a third packet containing the new address of the destination node to the

source node by the destination node using the multicast address;

       receiving the third packet by the source node and the other nodes; and

       storing in the local cache of the source node and the other nodes the new address

of the destination node.

5.   The method of claim 1, wherein the source node and the destination node have a

local address cache and communicate by using a multicast address, and wherein the

updating step further includes the steps of:

       sending a joining request, by the destination node, to a router to add the new

address of the destination node to the multicast group;

       sending a message, by the source node, to the destination node via the multicast

address;

       receiving the message by the destination node;

       sending a third packet containing the new address of the destination node by the

destination node to the source node, using the address for the source node;

       receiving the third packet by the source node; and

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storing the new address of the destination node in the local cache of the source node.

6.   The method of claim 1 wherein the network is a private network running on a public network infrastructure.

7.   The method of claim 1 wherein the change in the address of the destination node to the new address is caused by a device on which the destination node runs physically changing locations.

8.   A method in a distributed system for communicating in a network with a source node and a destination node, wherein the source node and the destination node have an address, the method comprising the steps of:

receiving a first packet by the destination node from the source node, the packet being addressed to the address of the destination node, wherein the source node and the destination node are programs;

updating the address of the destination node to a new address responsive to a change in the address of the destination node to the new address; and

receiving a second packet by the destination node at the new address.

9.   The method of claim 8, wherein the destination node has a local address cache, and wherein the receiving first packet step includes the steps of:

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storing, in the local cache of the destination node, the address of the sending node; and

wherein the updating step further includes the steps of:

retrieving from the local cache of the destination node the address of the sending node; and

sending a third packet containing the new address of the destination node by the destination node to the source node, using the address of the source node.

10. The method of claim 8, wherein the distributed system has a central address store, the method further comprising the steps of:

storing the address of the source node and the destination node in the central address store; and

wherein the sending a first packet step further includes the step of:

accessing the address of the destination node from the central address store; and

wherein the updating step further includes the step of:

sending a third packet containing the new address of the destination node to the central address store by the destination node .

11. The method of claim 8, wherein the source node and the destination node communicate with other nodes by using a multicast address such that a communication sent to the multicast address is sent to the source node, the destination node, and the other

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nodes, the source node and the other nodes having a local cache, and wherein the updating step further includes the step of:

sending a third packet containing the new address of the destination node to the source node by the destination node using the multicast address.

12. The method of claim 8, wherein the source node and the destination node have a local address cache and communicate by using a multicast address, and wherein the updating step further includes the steps of:

sending a joining request, by the destination node, to a router to add the new address of the destination node to the multicast group;

receiving a message from the source node by the destination node, via the multicast address; and

sending a third packet containing the new address of the destination node by the destination node to the source node, using the address for the source node.

13. The method of claim 8 wherein the network is a private network running on a public network infrastructure.

14. The method of claim 8 wherein the change in the address of the destination node to the new address is caused by a device on which the destination node runs physically changing locations.

15. A method in a data processing system for communicating in a network with a source node and a destination node, wherein each node has an address, the method comprising the steps of:

sending a first packet from the source node to the destination node by using the address of the destination node, wherein the source node and the destination node are programs;

receiving a new address by the source node to supersede the address of the destination node responsive to a change in the address of the destination node to the new address; and

sending a second packet from the source node to the destination node by using the new address.

16. The method of claim 15, wherein the network is a private network running on a public network infrastructure.

17. The method of claim 15 wherein the change in the address of the destination node to the new address is caused by a device on which the destination node runs physically changing locations.

18. A distributed system with a plurality of devices, comprising:

a first of the devices comprising:

a memory with a source node that sends a first packet to a destination node using an address of the destination node, that receives a new address to supersede the address of the destination node responsive to a change in the address of the destination node to the new address, and that sends a second packet to the destination node using the new address;

a processor that runs the source node; and

a second device comprising:

a memory with the destination node that receives the first packet at the address and that sends the new address to the source node in response to the change in the address of the destination node to the new address, and that receives the second packet; and

a processor for running the destination node.

19. The distributed system of claim 18 wherein the network is a private network running on a public network infrastructure.

20. The distributed system of claim 18 wherein the change in the address of the destination node to the new address is caused by a device on which the destination node runs physically changing locations.

21.   A data processing system for communicating in a network with a source node and a destination node, wherein the source node and the destination node have an address, the data processing system comprising:

means for accessing the address of the destination node;

means for sending a first packet by the source node to the destination node by using the accessed address;

means for receiving the first packet by the destination node;

means for updating the accessed address to reflect a new address of the destination node responsive to a change in the address of the destination node to the new address;

means for sending a second packet by the source node to the destination node by using the new address; and

means for receiving the second packet by the destination node.

22.   A computer-readable medium containing instructions for controlling a data processing system to perform a method, the method for communicating in a network with a source node and a destination node, wherein each node has an address, the method comprising the steps of:

sending a first packet from the source node to the destination node by using the address of the destination node, wherein the source node and the destination node are programs;

receiving a new address by the source node to supersede the address of the

destination node responsive to a change in the address of the destination node to the new

address; and

sending a second packet by the source node to the destination node by using the

5   new address.

23.   The computer-readable medium of claim 22 wherein the network is a private

network running on a public network infrastructure.

24.   The computer-readable medium of claim 22 wherein the change in the address of

10   the destination node to the new address is caused by a device on which the destination

node runs physically changing locations.